The Southerner.

No. 27.—Vol. 1. Tarboro', Edgecombe County, (N. C.) Saturday, July 3, 1852. Whole No. 27.

THE SOUTHERNER,
GEO. HOWARD, Jr., Editor & Proprietor
TERMS—PER ANNUM.
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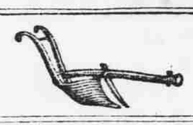
AGRICULTURAL.



☞ *"Agriculture is the chief foundation of a nation's power, as it not only furnishes man with food and clothing, but also with materials for the mechanic arts, and commerce."*

From the Working Farmer.

ADVANTAGE OF

The Farmer of this Age.

Within the course of a century, what vast discoveries have been made in relation to the structure of plants and to the vegetable economy in the functions, especially of absorption and perspiration. Science has shown the mode in which plants take up their aliment, the particular kind of aliment required for them, and the circulation of the food in the juices of the plant, its changes by respiration and its evacuations by respiration. These accessions to our knowledge of the vegetable kingdom have been made by degrees, the result of long studies and exact experiments, by many different persons. In relation to perspiration, Dr. Hales found that a sunflower lost 1 lb. 14 oz. weight in twelve hours of a hot day. In a dry night it lost about 3 oz. In a moist night little alteration was perceptible.

Haymakers know the rapidity with which grass is dried, which is owing to this perspiration, the juices not being again supplied by absorption as when the grass was living. It would be interesting to trace the history of these discoveries in vegetable physiology, but would require more time and space than we can now devote to the subject.

A century ago, nothing, it may be said, was known of the vegetable anatomy. Now the structure of the plant has become nearly as well known as the anatomy of the human body, though the knowledge of the former is confined to a fewer number of persons than the latter.

It is only a little more than fifty years since the true suggestion of what the true sap vessels of plants, was given by Dr. Darwin, and their operation and functions ascertained, by experiments of himself and others, followed to more certain results by Mr. Knight. It was discovered from those experiments that the sap ascends the spiral vessels of the plant forming in its ascent the alburnum, and descending in the outer bark. This knowledge is valuable to the farmer, who by this knows that if he would destroy his tree by girdling, he must cut through the alburnum to the hard wood, while if he merely girdles the outer bark of his vine with a narrow ring after mid-summer, when the sap is descending he may increase his crop of grapes by preventing the descent of the sap, and retaining it for the nourishment of the fruit, without injury to the vine, if the ring is not made too wide to unite again. The two gentlemen named, with a few others, Mirbel, Malpighi, Grew, Wildenow, Hales, Priestly and others, by a series of interesting experiments, have made us acquainted with the structure and functions of the vegetable world.

To Dr. Priestly we owe the knowledge of the respiratory action of the leaves of plants. And his opinion was, that the inspiration was by the upper, and the expiration by the under surface of the leaf. This fact is corroborated by the use of the cabbage leaf in medical ointment; the upper and smooth side is always applied to the skin, which "draws," as it is termed; while the under side, if applied in the same manner, will have no such effect.

It is true a great deal remains for the research of science to accomplish. "When we attempt," says Dr. Smith, "to consider how the particular secretions of different species and tribes of plants are formed; how the same soil, the same atmosphere, should in the leaf of the vine or sorrel, produce a wholesome acid, and in that of a spurge or machineel a most virulent poison; how sweet and nutritious herbage should grow among the acrid crowfoot and aconite, we found ourselves totally unable to comprehend the existence of such wonderful powers in so small and seemingly simple an organ as the leaf of a plant."

N. E. Farmer.

DISPARAGEMENT OF

The Farming Profession.

A very common and most pernicious error which prevails to a considerable extent in nearly every portion of the community is, that farming is the simplest of all arts, requiring nothing more than mere physical strength to manage it in all it details. The idea that mental exertion is in any degree requisite, is wholly lost sight of.—Many believe that when a man, endowed with good stout limbs, and a strong constitution, has proven himself mentally unfit for other pursuits, that he is just the person to make an excellent farmer. Farmers themselves frequently entertain the same opinion; especially those who cling so tenaciously to the "good old way" and reject the advantages of which science so earnestly invites them to avail themselves. Now this is all error—hurtful error—and the sooner it is banished, the sooner shall we find husbandry assuming its rightful position. So long as men are led to rank agriculture as a calling fitted only to broad shoulders and empty minds—just so long will the pursuits of the farmer be lowered in the estimation of the other professions.

But why should this be so? What single argument can be advanced in favor of such an absurd opinion, and what possible excuse can be offered in extenuation, by those farmers who thus disparage the high character of their profession? If there be any one pursuit in life more closely allied to science than all others; that pursuit is agriculture. Science is made to play a part in the daily operations of the farm. Geology and mineralogy explain to the farmer the formation of the earth's crust—the character and quality of the rocks and soils which compose it, and the various properties and uses of the minerals hidden beneath it. Chemistry his bountiful mistress extends to him her fostering care. She teaches him to analyse his soils as well as his plants, and understanding the constituents of each enables him to adapt the one to the other, and thus produce the most successful results. She analyses the food he prepares for his stock, and with the unerring certainty of science points out the properties and value of the different kinds of grain, roots, &c., so that he clearly understands what kinds possess fattening qualities, what muscle forming, and what supply and strengthen the bones.

We might thus refer to every department of science—to mineralogy, botany, natural philosophy, &c.—and show the intimate relationship that holds between them and agriculture; but enough has been said to disprove the disparaging assertions already alluded to. From the most trifling operation on the farm, to the minutest analysis of soils and plants, science is the ready and willing handmaid of the farmer. The simple truths every day presented to his observation, (simple, however, only when practically demonstrated,) are the brilliant results of persevering research of men of the most exalted genius. How few there are, who appreciate the wasting toil and energy that were required to develop and demonstrate these apparently trifling yet all important truths.

And yet, in the face of all these facts, men will tell us that physical strength is the only essential requisite for the farmer and what is worse still, many farmers themselves, if not by their words, sanction this slander. If a son gives evidence of an intellect a little superior to that of his sire, the farm becomes too limited a field for his genius, and agriculture too insignificant a profession for his transcendent powers. The lawyer, the divine, or the physician's office is considered his legitimate sphere, and the youth who might become an excellent farmer, ends his career as a second or third rate lawyer, preacher, or doctor. When shall there be an end of this? When will the science of farming be esteemed as it should be? We answer, when the spirit of progress shall have penetrated to every farm-house—when the sons of our farmers shall be taught to respect and reverence the profession of their fathers—when they shall learn to know and feel that education will supply that skill, and that interest, which will render farming as lucrative and honorable as any other pursuit. It will end when the thousands of American farmers who are possessed of the means, will venture beyond the beaten track of their ancestors—explore the hidden mysteries of nature—examine and understand her various processes, and thus fit themselves to till the earth more successfully—when every blade of grass, every leaf and plant and vegetable will possess for them an interest sufficient to lead them to investigate its character, and understand the broad principles upon which its germination, development and maturity depend. It will end when every tiller of the soil learns to regard his own profession as one of the most honorable, ennobling and scientific of human pursuits—when *mental* as well as physical energy will be deemed absolutely essential to successful husbandry, and when the idea that men who are unfit for every other pursuit, will make good farmers, shall be fully exploded.

Pennsylvania Farm Journal.

Under-Draining.

A few years since we were almost the only advocates of under-draining, except for lands which were entirely unsuited to all kinds of cultivation without the assistance of under-drains. Since that time, however, the doctrines were then collated from the experience of English and other farmers, who had used under-drains for the correction of sour soils not habitually wet throughout the year, have been admitted, and in many cases by our readers adopted—and the general usefulness of under-drains, beyond the mere removal of large masses of water, and for the improvement of soils which were but slightly too wet in spring, and not sufficiently moist in summer, is generally admitted. Indeed, there are few soils in which a proper arrangement of under-drains will not prove profitable; for influences are exercised through their means of far greater importance than the mere removal of surplus water in the abstract. In answer to numerous inquiries in relation to this subject, we shall attempt to treat it quite fully, notwithstanding our articles on the subject. We would refer to them, however for the modes of constructing drains, proper tools to be used, kinds of tile to be selected, &c., &c. The fact that under-drains improve the qualities of the soil, and render it capable of producing larger crops without material increase in the amount of fertilizing materials used, is now generally admitted, and we therefore consider the fact established, and will only offer to account for the causes why these effects are produced.

Soils are the *debris* of rocks, the decomposition is often but partial, and thus we find particles in the soil, in which are *locked up*, beyond the reach of the roots of plants, many materials necessary for their sustenance; and in soils requiring under-draining, this ultimate disintegration of their particles cannot proceed, from the operation of nature's laws being arrested by stagnant water resident among the particles. It not only occupies the spaces between particles, but being in a state of rest, prevents the entrance of new portions of water, charged with the necessary gases, to ensure the proper chemical actions requisite for the formation of a truly fertile soil. Manures placed on the surface of under-drained soils, are washed off at every shower. Roots cannot penetrate such soils. Soluble salts resident in the soil, such as sulphate of iron, (common copperas) cannot escape, nor can they undergo chemical changes without the admission of atmosphere. Large quantities of water cannot pass down freely through the soil, and therefore these baneful materials are not washed out, whereas when under-drained, soils containing copperas, will exhibit it in the water discharged, until the excess of copperas be removed. Cold soils by under-draining become warm and early. Every gallon of water falling through the atmosphere entering the surface of a well drained field, passes down, carrying with it a large amount of heat. Large quantities of carbonic acid gas and ammonia, washed out of the atmosphere during its descent, and those results of former vegetation which have underwent decay are again arrested for the use of plants. The water discharged from the drain mouths is always from one to ten degrees colder than when it entered the surface of the soil, and the excess of heat is evenly divided through the mass of earth above the level of the drains.

As air in a state of rest is the best non-conductor of heat, the soil remains warm, because the air resident between its particles is not in rapid motion. Each new portion of water passing down through the soil, repeats these operations, rendering it the storehouse of organic constituents of the atmosphere.

Water is capable of taking up many times its bulk of several of the gases, and the condensation of the moisture of the atmosphere to form dew, necessarily causes it to fall to the earth's surface, surcharged with such gases as it may entangle with itself; but if we examine water as it issues from these gases, & instead of fertilizing our neighbor's fields, at a lower level, with the soluble materials of our own, we pass the water toward the vallies, first retaining all articles of value received with it.

One cause of the growth of vegetables, is the ready decomposition of vegetable matter resident in the soil, such as the roots of plants, &c., &c., and this should be brought about without the formation of acetic acid; but in undrained soils this kind of decomposition is either arrested, or if in progress, produces sourness, and such proximates from vegetable decomposition as are injurious to new growths. In under-drained soils, on the contrary, the free supply of atmosphere ensures all the conditions necessary for healthful and proper decomposition beneath the surface of the soil, nor do under-drained lands suffer so severely from drought as those which are not under-drained, for the very atmosphere which can percolate the one and cannot the other, will continually deposit moisture on the surfaces of every particle of the soil. The same reasons which cause water to be deposited from the atmosphere at noon, of the hottest day in summer, on the surface of a pitcher filled with cold water, will always cause moisture to be deposited on every particle of soil sufficiently far beneath the surface, to have a temperature lower than that of the atmosphere itself, and it is for this reason that under-drained subsoiled lands never suffer from drought. In early spring the under-drained portions of any farm will be found ready for cultivation. The showers of many days cannot long remain to prevent the use of the plow; the soil being always freed from excess of water will not pack so as to be impenetrable to roots. Indeed, the surface-soil is undergoing continual improvement by a free condition of the sub-soil, for in under-drained lands the sub-soil is always so conditioned that the roots of plants can enter it, and thus bring up its inorganic constituents to supply such deficiencies to the surface-soil. The very circulation of atmosphere in under-drains, furnishes a continuous supply of these constituents to the superincumbent soil. We have settled this question practically to our heart's content, when half our farm is under-drained, and think before this making of the under-drains it was the poorest half, and although it has not since received any greater share of fertilizing materials than the undrained portions, still it yields us much the largest profit, and with all other conditions equal, is far earlier than the undrained part. We never suffer from drought; continued rains, or the long absence of them, produce comparatively no ill effects on the under-drained portions. It is the last of our soils to be closed by winter frosts, and is the first to yield up its rigidity in the spring; nor are these the low lands of our farm—the under-drains run to the very hill top, and even there the benefits are very great, as compared with the cost of the under-drains. No error is more common than to suppose that water enters under-drains during its passage downward in the soil;—the portions so entering the drains, are not one per cent. of the quantity which runs through them. It is after the lower pan beneath the drains is filled with water and rises to the level of the drains, that the running off commences, and they merely act to prevent this accumulation from approaching near enough the surface to interfere with the growth of plants. During long rains the water will rise nearer the surface half-way between two drains, than nearer the drains themselves, and it is for this reason that drains of five feet deep and eighty feet apart, are as effective as those of three feet deep and twenty feet apart. We have before given a diagram illustrative of these facts, which will be found in one of our former volumes.

To suppose that manures in a state of solution will be wasted from the mouth of under-drains, is an error—for it is impossible to filter downward in the fluid form, through any fertile soil. Even the brown liquor of the barn-yard will have all its available constituents abstracted by the soil, before it descends into the earth thirty-four inches. If this were not true, our wells would long since have become useless, the earth's surface would have become barren, and the raw materials, of which plants are made, which now occupies the earth's surface and the surrounding atmosphere, would have passed towards the earth's centre; but the carbon and alumina of the soil, each of which has the power of absorbing and retaining the necessary food for plants, are the agents for the carrying into effect the necessary laws of nature for the protection of vegetable growth.

Undrained soils are not benefitted by the use of the sub-soil plow, for its deep cuts are soon compacted by the action of an excess of water on the soil; but after the insertion of under-drains, the sub-soil plow becomes the farmer's greatest blessing; it enables him to render his surface-soil of any depth he pleases; to call on the great store-house of his sub-soil for many of its constituents of which his plants are deficient, and to send their natural agents, (their roots) to collect it. They may have used from the immediate surface many constituents of which he has an inexhaustable supply in his sub-soil, and thousands of acres have been supposed to be worn out, when nothing but their immediate surfaces had been disturbed. Well sub-soiled land is continually changing in color, by the amount of carbon detained in the soil from the carbonic acid gas circulating in it with the atmosphere, or brought to it from the atmosphere by the dews and rains; and after the soil has become fairly charged with this necessary and most valuable of organic ingredients, it is then, and not until then, capable of receiving ammonia, and of retaining that contained in the fertilizing materials which may be added to it. The farmer who deepens his soil from six to twelve inches, doubles the number of acres in which the roots of his crops may travel, and by this he may double his crops, while his expences are not increased in the same ratio. Let us know to what depth a farmer plows, in well drained soils, and if his other points of management be judicious, we can judge if his business be profitable or not, from that fact alone.——*Working Farmer.*

The last Appeal

TO THE FARMERS OF NO. CA.

We have seen for a long time, the great need of a papor in our State to be devoted to the farming interest especially, and we, at length, with great diffidence, assumed the laborious task of editing such a paper. We saw plainly, what great good others were working in this way in their respective States and it inspired us with a disposition to obtain a fame like theirs, which will last for ages. In the present flourishing condition of Virginia, may be plainly seen the fruits of one man's labor. The name of Edmund Ruffin is dear to every Virginian; their hearts swell with gladness whenever they name him. Seeing the great need of such a paper as alluded to in this article, we have begun to publish "The Farmers' Journal," and we would ask to whom are we to look for support in this enterprise? whose interest do we advocate and advance in this undertaking? is it not that of the farmer? if so, of course to him we look for support. We have before made a similar appeal through our own columns; but it seems not to have been seen, or if seen, not heeded by many. We have now concluded to ask a place in the various papers of the State and we do hope to be heard. There are according to the last census, more than 200,000 men engaged more or less, in farming in our State; and it does seem, that out of this number, we ought to have, at least 10,000 reading men; those who read upon subjects devoted to their daily business.

We want 10,000 subscribers, and this is the number we must have in order to effect that good, which we have it in our power to do. Such papers in other States, have three times that number, for the plain reason, that their young men are not seen soliciting subscribers for Agricultural papers published elsewhere, when there is one in their own State. We have done our share in this matter, and we now say, that if the farmers in our State feel the need of such a paper, and wish to see it live longer than one year, they must exert more energy than what they have done in the premises. We are not sustained sufficently to continue, and what has been done, has been principally by ourself; by leaving our home, and neglecting our studies, to go over the State to "devil drag" the farmers to persuade them to look to their interest. As to the merits of "the Farmers' Journal," we will say for the benefit of those who have never seen a copy, that we saw, a few days since, the ex-treasurer Charles Hinton, Esq., who told us, that he was more pleased with it than any paper of the kind he had ever seen. We of course, did not understand him to say, that it was the most scientific paper, but that what we had written, could be understood by all. We hope after this the farmers will send in their names, and the cash, and let us live longer than one year. Address Dr. J. F. Tompkins, Bath, Beaufort County, N. C. and the paper shall be sent forthwith.

THE ART OF GROWING

Trees from Cuttings.

Professor Delacroix, of Besancon, in France has discovered a mode of propagating from cuttings, which is not only successful in case of roses and other plants easy to live, but apples, pears, plums, apricots, &c. Out of one hundred cuttings put out in June, not one but was thriving in August in the open air, without shade or extra care, except watering a few times soon after they were planted. His method is to put the whole cutting in the form of a bow, with the centre part up, and just on a level with the surface, at which point there must be a good bud or shoot, which is the only part exposed to the air; the other being protected by the earth from drying up supports and gives vigor to the bud, which starts directly into leaf and in its turn helps the cutting to form roots and in its whole even forms a thriving tree. The method of setting them is to form two drills about three inches apart with a sharp ridge between, over which bend the cutting, and stick an end in each drill, and cover up and press the earth firmly, and water freely. Cuttings should be of the last year's growth, fresh and vigorous.

An Easy Natured Farmer.

THE TRUE MAHOMETAN SPIRIT.

The Detroit Advertiser relates the following example of a resignation, usual among Americans:

A certain good-natured old Vermont father preserved his constant good nature let what would turn up. One day, while the black tongue prevailed in that State, one of his men came in, bringing the news that one of his red oxen was dead.

"Is he?" said the old man, "well, he always was a breechy cuss. Take his hide off and carry it down to Fletcher's; it will bring the cash." An hour or so afterwards, the man came back with the news that "line back" and his mate were both dead. "Are they?" said the old man, well I took them of B——, to save a bad debt that I never expected to get. It is lucky that it ain't the brindles. Take the hides down to Fletcher's they will bring the cash." After the lapse of another hour the man came back again to tell him that the nigh brindle was dead. "Is he?" said the old man," "well he was a very old ox. Take off his hide and take it down to Fletcher's it's worth cash, and will bring more than two of the others." Hereupon his wife, who was a very pious soul, taking upon herself the office of Eliphaz, reprimanded her husband very severely, and asked him if he was not aware that his loss was a judgment of Heaven for his wickedness. "Is it!" said the old fellow. "Well if they will take the judgment in cattle, it is the easiest way I can pay it."

POLITICAL.

PERSONAL APPEARANCE & HABITS OF

General Pierce.

Everybody, of course, is anxious to know something about the *personal* of the man who is to be our next President. He is not far from five feet eleven inches in height, and finely proportioned. His face is impressive and commanding, and beaming all over with the light of intellect and energy. We have never seen a countenance which exhibits more lofty purpose, zeal, and undisguised frankness. With a mind of the highest order, and harmoniously developed, he combines the suavity of a child. His habits are those of a man who believes there is a great deal to be done, and very little time to do it in. He is forever at work, and we may safely say, that from the first time he entered public life, no man has spent his powers more profusely, in carrying out what was alloted to him, than Gen. Pierce.

As an orator we will pit him against any body in the country—but his arguments are none the less compact for the beauty of his diction and the elegance of his gestures. In his love of country he is a perfect enthusiast. Had he a dozen lives to give they would be freely yielded up at her shrine. This is a cent feature of his character he may have inherited from his father, who was a general in the revolutionary war, and we may add, was afterwards Governor of New Hampshire. We delight in being thus particular (though we have not said all that we shall say).

Cleveland Plaindealer.

A WHIG'S SAY OF GEN. PIERCE.

The editor of the Ironton, Ohio, Register (Whig) having from his earliest boyhood known Gen. Pierce, undertakes to tell who he is. He says: "FRANKLIN PIERCE was born about fifty years ago in Hillsborough county, New Hampshire, and is the son of Benjamin Pierce, who was high Sheriff of that county for many years; Governor of the State in the years 1827 and 1829, and withal a Revolutionary soldier. The father was a very illiterate man, an unwavering Democrat, and an unsullied patriot; both father and son were flaming Jackson men in the times of Adams and Jackson; and we believe that Franklin has never been suspected of being anything else but the fiercest sort of a radical Democrat. * * *

"He is an eloquent speaker, a fierce declaimer, a man of consummate tact and shrewdness—a complete wire-puller—a perfect political manager. He is earnest in his endeavors—always says *can*, never *can't*—has talents of a high order, yet he does not come up to the dignity of a statesman. He is, however, comparatively young, and may possibly if he reaches the White House "come out" as a statesman. His moral character is good, at least we never heard aught said against it in the county where he was born and bred, and probably is as honest as any of the wire working politicians."

As to the nomination, the Register says:—"All in all, it is a nomination coupled with that of Mr. King, for Vice president, in every way calculated to *win*."

Well, all that is saying a good deal for a Whig, though Gen. Pierce is more of a statesman than the editor of the Register takes him to be. As to the ticket being one calculated to win, that we believe is pretty generally conceded on all hands.—*Cincinnati Enq.*

A Prediction

THAT WILL COME TO PASS.

On Saturday evening last the Democracy of Buffalo, N. Y., held a large and spirited ratification meeting.

After the adoption of the resolutions a number of gentlemen spoke, among whom was Mr. Howard, of Tenn. Mr. Howard, in the course of his remarks, related an incident which he said would be interesting to Democrats, the truth of which was vouched by Gen. Armstrong, of the Washington Union, and J. Knox Walker, Esq., private Secretary to President Polk. When Mr. Polk signed the Commission of Gen. Pierce, appointing him to a command in the army in Mexico, he turned to those gentlemen and said. *"I am now commissioning a man who will one day be President."* As to the Whig nomination, Mr. H. said if it should be that of Gen. Scott, occupying his present position, every southern State he believed, would go for Pierce.—*Pennsylvanian.*

A Home Thrust.

The Savannah Republican, a Whig paper, hits the sore point of the whig movement for Gen. Scott in the following pointed terms:

"There may be policy, but we are unable to discover any frankness or patriotism, in Gen. Scott's present position. The fact that he remains silent at the suggestion of his 'friends North' is evidence that he is shaping his action to suit them. Will he do the same if elected President? If Seward and his followers control him now, we see no reason to hope for better things after his election. It is this consideration which will prevent southern whigs from supporting him on any kind of platform, or with any sort of letter, however satisfactory."

This view of the matter be deemed to be unanswerable—at least until some plausible attempt shall be made by the Scott organs to answer it.

Washington Union.

GEN. WORTH.—The family of Gen. Worth, it is said have applied to Congress for a pension, to be paid them in consideration of the public services of Gen. Worth, who, at the time of his death, was unable to leave them any property. The sum asked is $600 a year.